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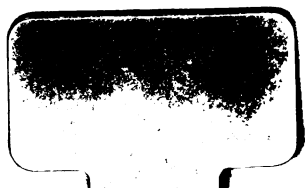
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THE INFLUENCE
EXERTED BY THE MIND
OVER THE BODY



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**ON THE
INFLUENCE EXERTED BY THE MIND
OVER THE BODY**

“ COMME les difficultés sont ordinairement plus aisées que les solutions, on les retient aussi plus aisément, et on en est aussi plus prevenu. Ainsi après une longue discussion, il est naturel qu'on se souviennne plus aisément des difficultés que des réponses, et que l'embarras revienne, tant qu'on n'agit par cet mémoire.”—LEIBNITZ.

T H E O R Y
OF THE
INFLUENCE EXERTED BY THE MIND
OVER THE BODY

IN THE
PRODUCTION AND REMOVAL OF MORBID
AND ANOMALOUS CONDITIONS OF
THE ANIMAL ECONOMY

BY
JOHN GLEN, M.A.

THE BULWER LYTTON PRIZE ESSAY

WILLIAM BLACKWOOD AND SONS
EDINBURGH AND LONDON
MDCCCLV

265. C. 38.

“τὸ ζητούμενον
Ἄλυστον· ἐκφύγει δὲ τὰ μολογούμενον.”

Edip. Tyrann. 1. 110-111.

“What’s sought for may be found ;
But truth—unsearched for—seldom comes to light.”

Franklin’s Translation.



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P R E F A C E .

IN the succeeding prefatory remarks we would seek to recall to the reader's memory, or now for his information to state, the occasion on which the thesis, in its general outline as an attempt to connect Moral and Metaphysical Philosophy with Practical Pathology, was originally proposed by Sir E. B. Lytton. That proposal was publicly made in the Address delivered by him, as their Honorary President, to the Associated Societies of the University of Edinburgh, on the evening of January 18, 1854. It is contained in the following passage, which may with propriety be quoted :—

“We live longer than our forefathers, but we suffer more from a thousand artificial anxieties and cares. They fatigued only the muscles; we exhaust the finer strength of the nerves; and, when we send impatiently to the doctor, it is ten to one but what he finds the acute com-

plaint, which is all that we perceive, connected with some chronic mental irritation, or some unwholesome inveteracy of habit. Here, then, the physician, accustomed to consider how mind acts upon body, will exercise with discretion the skill that moral philosophy has taught him. Every one knows the difference between two medical attendants, perhaps equally learned in pharmacy and the routine of the schools: the one writes in haste the prescription we may as well "throw to the dogs;" the other, by his soothing admonitions, his agreeable converse, cheers up the gloomy spirits, regulates the defective habits, and often, unconsciously to ourselves, "ministers to the mind diseased, and plucks from the memory a rooted sorrow." And the difference between them is, that one has studied our moral anatomy, and the other has only looked on us as mere machines of matter, to be inspected by a peep at the tongue, and regulated by a touch of the pulse. And in order to prove my sense of the connection between moral and metaphysical philosophy and practical pathology, and to pay a joint compliment to the two sciences for which your College is so pre-eminent, I here, as a personal favour to myself, crave permission of the heads and authorities of the University to offer the prize of a gold medal for the current year, for the best essay by any student on some special subject implying the connection I speak of, which may be selected in concert with the various Professors of your medical schools and the Professors of Metaphysics and Moral Philosophy."

To this offer the *Senatus Academicus* responded with their usual promptitude and public spirit; and

toward the close of April 1854 they announced as a special subject of competition to their students, "The influence exerted by the mind upon the body in the production and removal of morbid and anomalous conditions of the animal economy."

To this announcement there was appended a caution, to which may we next solicit attention, as containing two important indications of the kind of Essay desired by the Senatus, and consequently attempted by us. The caution was thus worded:— "*Nota bene.*—Something more is expected than a mere enumeration of facts, however striking and various; some attempt to methodise, and, if possible, to explain them." Herein, then, we are taught— 1°. Not to accumulate stories; and, 2°. Not to expect perfection, but courageously to make an attempt. On these two points a few words of comment may be offered.

(1°.) Our comparative or total ignorance of the principles which regulate the influence of Mind, certainly arises not from scarcity of facts, such, at least, as may be quoted: these abound on every

side ; they press upon us in undeniable profusion. But if, instead of quoting, we proceed to sift the facts, many must be rejected as irrelevant, or without weight. As flowers beautiful, and to the florist of exceeding worth, are of no avail to the pharmacist—he seeks the whole plant, or demands the disregarded and uncomely root)—so tales of mental influence, which may be touching in sentiment, and invaluable to the novelist, frequently yield no accurate or scientific information. For if an instance of mental influence were properly gathered, observed and recorded, we would obtain in it more or less information as to the previous condition of the body ; so that, detecting in the result the modifying influence of physical circumstances, we would make for them a suitable deduction, and thereafter estimate the uncomplicated energy of the mind. But (need we remark ?) in the vast majority of striking facts, no such satisfactory information can be obtained, because the 'narrators wish to interest our feelings, to excite our wonder, and not to give accurate data for the solution of this scientific pro-

blem. Hence, far from carefully describing the physical conditions (which would often furnish a key to the phenomenon), they instinctively omit them altogether, the better to produce a rousing tale of wonder.

But as it is our sole and earnest wish to examine the proposed question scientifically, such tales are, with all their interest, valueless to us. Our synthesis, therefore, must be based on analysis of ordinary facts, common among all nations, and at all times—facts which no man denies, and no man thinks worthy of repetition. The reader will, no doubt, demand to be spared the enumeration of such trite instances, and, allowing us to operate upon them in private under the combined lights of psychology and physiology, will test by his own experience the result, as it is proffered to him in the form of a Theory.

(2°) But dare a young Student hope for success, or rashly challenge Sir W. Hamilton, and Bennet, Carpenter, or Morell, to test this theory by the fiery trial of their genius and profound research? No

such presumptuous hope misguides the Author. But in an effort of this kind—in regard to which the Latin adage seems appropriate—“*In magnis vel voluisse sat est*”—there is presupposed in the *Dii Majores* of the scientific world, a certain indulgence toward the adventurous tyro ; as when a soldier father, matchless in the use of arms, beholds with a peculiar smile his youthful son essaying to move the too ponderous sword.

And thus we find that the *Senatus*, in the distinct utterance of a *Nota bene*, postulate for no more than an ATTEMPT. The present Essay, then, is designed to be the first effort toward a solution of the thesis, and not to be the definitive and final settlement of the inquiry.

As such it was proffered in competition—as such it is now respectfully presented to the Public—not without the private recommendation of members of the Adjudicating Committee.

THEORY

OF

THE INFLUENCE EXERTED BY THE MIND OVER THE BODY.

CHAPTER I.

Η ΠΡΟΘΕΣΙΣ: OR, MARKING OUT THE GROUND.

THE motive which, during the subsequent investigations, will enliven, and direct, and limit our energies, is the wish, so eloquently expressed by Sir E. Bulwer Lytton, to unite more closely the correlative, yet often dissevered pursuits of psychology and physiology. This earnest longing to reconcile the respective labourers in either field of knowledge to the results of labour in the other has appeared simultaneously in the more eminent votaries of both pursuits.

Thus, in the Lectures on Natural History, delivered

A

by him in the summer session of 1853, the eminent Professor of Anatomy in the University of Edinburgh developed his doctrine of the "Psychical relations of Man to the Brute Creation," in a manner which proved his profound sympathy and his thorough acquaintance with philosophical writers. And Sir Benjamin Brodie, whose talents have been so conspicuous in the advancement of *medical* science, has lately shown, by the publication of "Psychological Inquiries," that he does not disdain, amidst the glory of professional eminence, to cultivate, as did the noble Tusculan, the muses of philosophy. From the opposite, but not unfriendly ranks, there has appeared the great defender of the common-sense philosophy, who has crowned his other honours (and they are not few) by a European reputation for acquaintance with physiology. And of Mr Morell, the most recent of our English writers on philosophy, it is reported that he will, in no long time, publish some curious investigations on the Union of Soul and Body.

But the motive, thus shared by us with more illustrious men, is restricted to a definite aim by our adopting the theme proposed by Sir Edward Bulwer—so that many questions which the same motive might prompt the reader to remember and put forth for solution must be laid aside. Let us, however, state some of these inquiries, so apt to arise, and so worthy of con-

sideration, but inadmissible to our thoughts during this Essay. We shall thus more clearly define the "*quod est demonstrandum*," and thereby effect the first great step to success in our aim—viz., the "prothesis," or marking out of the ground.

1°. A truth frequently suggested to the medical practitioner during the course of his practice, is the influence of bodily health and occupation, and climate and diet, on the temper and intelligence and beliefs of men. On this subject much has been written, and, therefore, much might be quoted ; but it is not the subject of our thesis—it is rather the antithesis ; and we therefore lay aside L'Andoussy and Laycocke for the present.

2°. The next theme on which we might expatiate—nor is it LITERALLY excluded in the thesis—is the directive power of Mind. It is by the due consideration of the influence thus mediately exerted by the mind that we shake off the depressing and materialising tendency of the preceding inquiry. The weight and moisture of the atmosphere, the position of the moon, the temperature of the place wherein we dwell, the quality of the food which we take, and the sleep in which we indulge, may all be admitted as influencing the body, and, through the body, influencing the indwelling mind. Yet still the mind can discern and can foresee the in-

fluence of climate, and food, and sleep, and labour; and, being guided by this knowledge, it can, to a certain extent, alter the food, the sleep, the very climate.

On this basis rests the time-honoured art of therapeutics, which has in different ages warded off from men the "full fell swoop of death." At one time it checked the ravages of scurvy, at another time it destroyed the contagious power of small-pox; at no distant period, we trust, it is destined to curtail the triumphs of cholera. It is to this wondrous prophylactic power of foresight that Æschylus refers in that boast of Prometheus:—

"εἰ τις εἰς νόσον πεσοί

Οὐκ ἦν ἀλεξήμ' οὐδεν,—οὔτε βρωσιμον

Οὐ χριστον—οὔτε πιστον, ἀλλὰ φαρμακων

Χρεία κατεσκελλοντο, πρὶν γ' ἐγὼ σφίσι

Εδειξα κρασεις ἡπιων ἀκесματων

Αἷς τας ἅπασας εξαμυνονται νοσους."

(*Prom. Vinc.*, 487-492.)

But neither can this theme be admitted as even partly embraced in the purpose of the thesis, and we must, therefore, postpone the pleasure of "breaking a lance" in honour of pharmacy and therapeutics.

3°. The third route opening up before the student leads to an oft-trodden topic, which has not become *trite*, simply because it is enveloped in such obscurity

as to conceal from each succeeding traveller the distinct traces of his predecessor's progress. This subject is "the physiological connection" (if we may thus express our meaning) which binds together soul and body—a subject of prior importance and superior interest to the preceding questions, but involved in greater difficulty, and handled with less general satisfaction. But neither is this theme placed directly before us in the terms of the proposed Essay; for we are called to methodise and explain the pathological, and not the physiological influence of the mind upon the body.

If, however, we begin to congratulate ourselves on escaping from an enterprise so arduous, and seek to pass by it hastily to our special purpose, we find our congratulations premature, and our by-way occluded. The *thesis* undoubtedly is the pathological relations of mind and body; but these relations can neither be explained nor understood, except by one who has established a BASIS of operation in a correct description of the union physiologically existing between the soul and its body. In other words, there is concealed, in a quiet-looking proposition, the very question that has exercised the talent and broken the heart—the proverbially hard heart—of the metaphysician.

This subject we must now approach, however arduous be the line of argument, as the only route which lies

open for us toward the settlement of the capital inquiry. It will be discussed accordingly in the succeeding chapter, which will embrace whatever we can discover relative to the symmetry and sympathy of soul and body in their ordinary communion. Having succeeded in this endeavour, and thereby laid the foundation for the secure establishment of the thesis, we will in the final chapter trace the development of disease from the normal influence of mind being exerted under altered circumstances and combinations.

CHAPTER II.

H'ΠΟΘΕΣΙΣ: OR, LAYING THE FOUNDATION.

HOWEVER noble be the native character of Mind—and noble indeed it is, if there is truth in the saying,

“Mind it seeth, Mind it heareth—
All beside is deaf and dumb”—

yet that nobility is unable to waken into submission the dull elements of material nature. It is true that, at the approach of Him who is the Father of spirits, the earth is moved, the foundations of the hills are shaken, and the seas are parted asunder ; but to its own movements the spirit of man can trace no such response in the slumbering powers of matter. The winds and the waves will not obey our voice ; and the sorrows of mere man have never veiled the sun in sympathy. What though we hope—what though we fear ? Our fears will not depress the temperature around us—our hopes will not disturb the heavens above us.

Thus over the simple elements of chemistry the soul claims no power, and with the unorganised materials of nature it will accept no communion ; but over the chemical changes in its own body it exerts an indefinite control, and with the organised textures of that body it maintains most intimate communion.

Directing our attention, accordingly, to the result of mental phenomena upon the structure which embodies the man, we find ample range and scope enough for observation, analysis, and explanation.

To the existence of such a link between the inner and the outer self, no observant eye can be blind. Many a rude man who cannot articulate his creed upon this matter, may yet be seen, in the common intercourse of life, attempting to read in his neighbour's face the feelings and purposes of his heart. The poet, on the other hand, if skilled in rousing the fancy by the "*Ἔρεα πτεροεντα*," "the winged words," which can alone bear up the "thoughts that breathe," owes his success to the power of depicting the features which represent gloom or sadness, frenzy or serene tranquillity, alike in heroes and in common men.

So paints the mighty Homer and our own great Shakespeare. In their writings, however, the bodily changes are marked, only the better to give life to the description of the mental state. By us these phe-

nomena are to be considered, not in their lower degree, as significant of something else, but in their more marked degree when claiming attention as in themselves morbid or anomalous features in the body. Thus Shakespeare tells us of "the lean and hungry look" of Cassius, the better to describe the discontented Roman ; while we would fix upon such a fact only as a proof that anxiety and discontent check the processes of nutrition, and favour the absorption of adipose tissue.

As has been foreseen by the patrons of this thesis, many and interesting examples might be collected by the diligent student, and put forward under the general name of "The Mind's Influence upon the Body."

Thus the ravages of cholera are noticeably greater on those who are depressed by fear—on those who are suffering from ennui, as were our own troops lately at Varna—and on those who are being driven back in sad defeat, as were the Russian soldiers before the trenches of Silistria. On the other hand, we may remark the benefit resulting from the renewed activity of Hope, in the case of every convalescent—or as when the Prince of Orange cheered his soldiers, shut up in Leyden, with the promise of speedy relief, and the present, meanwhile, of an "infallible cure" (a few phials of distilled water) for the distemper which was mowing them down by hundreds.

Such effects being visible in multitudes are more noticeable, but they possess the disagreeable feature of *sameness*. Turning, therefore, to individuals, we find one man who, under a strong impression of terror, was seized with jaundice ; another, who under the same influence continued for one night, arose in the morning with hair perfectly white ; and a third who, in more imminent danger, fainted and died. We hear of one lady who, through intense chagrin, fell into epileptic fits, which were renewed thereafter by simple contradiction ; and we all know hysteria to be a powerful defence, adopted by some females to check any impertinent interference with their will. Alarms of “ fire ” and “ the enemy ” have given power to the paralytic ;—under an emotion of affection the palsied man has walked ;—by the voice of authority and by wholesome terror the epileptic and the hysterical have been controlled and cured. The contention at a governor’s meeting agitates the illustrious John Hunter—he retires to a small room, and dies.

The chronic influence of mind is not less marked, and can certainly be better studied, than its sudden power as adduced in the preceding statements. The proverbial tendency of a happy mind to produce a comfortably stout body, and the counter-tendency of a worrying and anxious disposition to interfere with

nutrition, are well-known instances. Melancholy, which can, no doubt, be produced by other causes, is yet by all acknowledged to be the frequent consequent of unsuccessful *love*. Success, on the other hand, may gradually raise the spirits, and quicken the circulation, so much that, under the tide of good fortune, the unhappily happy man finds it impossible to keep his head.

Other instances might be adduced, not from the sober pages of history, but from the fairy scenes of fiction. Thus, the inimitable stories of the "Late Physician" might be placed under contribution while we quote his eloquent description of Mind struggling with Matter, in his tales of the "Thunderstruck," the "Ruined Merchant," the "Forger," the "Broken-hearted." So, also, the death of the haughty templar in *Ivanhoe*, and of the base Trevelyan in *Charles O'Malley*, with the numberless instances developed in the novels of Bulwer, might be again brought forward "to point a moral," as well as to "adorn a tale."

But such a course is forbidden, not only by the tendency of professional study, but also by the express terms of the thesis. We are bound "to methodise, and, if possible, to explain" the facts; and to effect this object in the compass of an essay, we must not only avoid laying before our readers the banquets of

fantasy, but even decline accumulating HISTORICAL instances, which may be obtained as readily in the works of Burton (on Melancholy), of Zimmerman (on Solitude), of Holland, Abercrombie, and Esquirol.

Indeed, no one of scientific spirit cares to meet with "striking" facts, otherwise than as the Scots Greys relish an encounter with an enemy whom by their prowess they will subdue. The bare enumeration of startling facts is but the glorification of the enemy, and the humiliation of science. We will therefore proceed—even though the path be not bestrewn with flowers—to essay an explanation—i. e., a conquest of these facts; and in this spirit we advance the following remark: "While every part of a man's body is within reach of his mind's influence, yet every part is *not* subject to every manifestation of his mind."

With reference to this statement, it is evident that, in certain mental phases, every part is not "EQUALLY" subject. Upon this fact depends the possibility of physiognomical observations; for if the influence of envy, fear, hatred, or love, were unlimited, no *points determinative* of the passion could be seized. But now it is certain that different portions of the body respond, at least MORE than others, to special phases of mind. The intelligence which gives colour to the eye and beauty to the face, will leave the "phalanges" of both

extremities unaltered, and the abdominal viscera unaffected. But the emotion of *fear* will quickly prove these latter members not invulnerable to spiritual influence, while every finger is nerved by the thrill of passion. Thus it appears that every part is not **EQUALLY** subject to the same mental influence.

We are, however, prepared to go further, and to maintain, as the leading proposition in this chapter, that "there are three tissues composing the human body, which, being physiologically distinct, may be shown—in as far as they are influenced by mind—to be influenced by distinct principles of the mind, and not indifferently by them all." If, however, the principles which are undoubtedly distinguishable, should be developed, as frequently they are, *in union*, then the tissues, each responding to its master principle, will likewise appear in complex relation. Assuredly it is not to such *complex* results that we should first turn to examine the corporeal changes consequent upon the mind's influence. And even if we would consider the effect of a single mental principle upon the body, we should carefully watch against two probable errors, which will be occasioned by ignorance of two leading facts.

1°. The natural—we may add, the necessary tendency of each tissue (according to the laws of physics) is to

communicate changes in itself, *however produced*, to the neighbouring tissue. Hence, when a structure has responded to a mental act, the change in it may, *by virtue of purely physical laws*, excite alterations in the neighbouring tissues. For example, the muscular fibre, contracting under stimulus of volition, will, by the development of *heat* during contraction, alter the conditions of the adjacent integument. An acquaintance, therefore, with the PHYSICAL results which flow from a "given change" in one or other of the textures of the body, is necessary, else we will be attributing to a spiritual cause a *chain* of phenomena, whereof only the first link has any immediate relationship to the mind.

But, 2°. The natural, we will not add the *necessary*, tendency of each principle of mind is, when in action, to excite its fellow. Thus feelings, being roused by sense, do in their turn excite desires which lead to renewed inquiry, quickened feeling, and fresh desires. An acquaintance, therefore, with the laws and phenomena of Mind will be necessary, else the observer—even after skilfully selecting, from the mass of physical phenomena, the original fact not explicable by physical laws—will be led to attribute that original change to A SINGLE psychical principle, when, in truth, there were present two or three.

There are thus physical laws exemplified in the mutual relations of matter, but possessing no illustrations in the phenomena of mind ; and there are psychical laws which are exemplified in mental phenomena, but not illustrated in material. With both classes of phenomena the student should make himself acquainted, before approaching the study of the peculiar instances of the harmony existing between the manifestations of mind and the concurrent changes in the body. These instances of a harmony established by the Creator between the soul and the body, before either physical or psychical laws began their action, form the objects of our present attention ; and in reference to them, we have advanced the statement, that the harmony may be detected as existing between the three ultimate principles of the soul, and a corresponding triad in the body.

This statement we hope our readers will not regard as an *a priori* dogma, suggested by loose Pythagorean notions about the sacredness of the number *three*, or the general harmony of numbers, but will accept as the result of a comparison of previously ascertained facts in psychology and physiology.

These facts—which indicate that the soul and the body have been formed by the Creator on one homologous type—have been arranged by us (concisely when

the *mass* of facts is duly considered) under the form of Two Reports. If the reader be indisposed to examine these statements, he is referred to the Retrospect at the close of each Report,* which will enable him, we hope, to understand the scheme of this hypothesis.

REPORT : ON THE SOUL.

That the soul is a unit, and not a sum, has been the innate conviction of every self-conscious man, and the fundamental basis of all true metaphysics.†

But if the soul be unity in substance, its manifestations are many in number, and manifold in character ; and although, when viewed from the central point of the ich by the practised eye of the metaphysician, these manifestations do arrange themselves in groups, yet some groups are found refractory to further generalisation, and demand to be regarded as distinct. These ultimate groups of phenomena may be stated in the words of Sir William Hamilton :— ‡

“Taking a survey of the mental phenomena discovered by consciousness, we find that they may be ranged under three great classes.

* First Retrospect, p. 25. Second Retrospect, p. 31.

† FERRIER'S *Institutes of Metaphysic*, pp. 264-265.

‡ *Lectures on Metaphysics*.

“ First—Phenomena of Knowledge.

“ Second—Phenomena of Feeling—*i. e.*, of pleasure and pain.

“ Third—Phenomena of Will and Conation.

“ Thus, *ex. gr.*, we approach a picture, and become, *first*, conscious of perceiving a certain complement of colours and forms : this is cognition. But further, and *secondly*, certain feelings may be excited of unalloyed gratification if it be a masterpiece, or of a more mingled character if it be of indifferent merit. While, *thirdly*, these feelings may be succeeded by a growing desire to become possessor of the picture; and, as consummation of the desire, there is formed a will that so it shall be.”

It is almost unnecessary to state that the preceding example is not designed as a *proof* that all mental phenomena may be ranged under one or other of these three classes, but simply as an illustration of what is meant by cognition, feeling, and conation. The *PROOF* to us is—the name of Sir William Hamilton. The same authority would sufficiently persuade us that the mental phenomena (reducible to three groups) cannot be ranged under one or two ; but on this point a few remarks may be allowed.

These groups, then, do stand out from each other, and possess, as far as we see, no more necessary affinity than the red, the yellow, and the blue rays ; or, as they may be termed, the calorific, luminous, and actinic

principles in the solar beams. Like the latter, they blend together in different proportions, and thereby form the shades and complexions of character; and they all concur in the mental acts in which the soul is most energetic, but they are distinct in their centres of maximum development. As "the blue" is more distinct at one end of the "spectrum," and the red at the other, although with the yellow, which predominates in the middle, they combine to form the undistinguishable harmony of light, so intelligence, feeling, and conation, which blend harmoniously in full mental vigour, are yet found, in relation to the whole term of life, to be more distinct at this or that period. For feeling is predominant in childhood, and intelligence in the autumn of life; while the will, with its impetuous passions and boisterous desires, appears pre-eminent amid the warmth of youth. On this point the poets—admirable students of human nature—may be our teachers, as they declare the change of character with the advance of age—(HORACE in the *Ars Poetica*)—or delineate the peculiarities which distinguish the seven periods in the life of "all men and women."

The same preponderance of one over another element will appear, if we look to the history of races, and compare them in the conditions which are closely analogous to childhood, youth, and age—namely, 1°. The

early state of barbarism ; 2°. The advance to the position of an energetic and pushing people ; and 3°. Their ultimate development into a civilised nation. How great a difference will thus appear between the savage roused from indolence only by the feelings of hunger or the passion of revenge—the robust Roman, tenacious of his purpose to subdue the world—and the “canny” Scotchman, watching over every feeling and spontaneous desire, as a vigilant commander guards over the traitor, lest these should interfere with “the main chance.”

There are, then, three ultimate principles in Mind ; and Cognition, Feeling, and Conation are the terms describing each respectively—in as far as it is conceived existing apart from the others.

But we remark, 2°. That in adult life, when mind is more mature, the phenomena which we generally witness are “combinations,” and (so to speak) “*fusions*” of the principles, and not the bare disjunct principles themselves. In the lower animals, no doubt, and in the first stages of childhood, and in the imbecile wards of our lunatic asylums, we often witness what is only bare perception, momentary feeling, and instinctive effort ; but among robust and rational men, we find perception to be blended with feeling or will—feeling also to be united with intelli-

gence or will—and the volitional element to be *not* apart from one or other of its complementary principles.

The following tabular view will suffice to show how the three elements are respectively affected by the subordinate admixture of the complements :—

- I. Intelligence, which is in its essence PERCEPTION, becomes Sentiment when controlling *Feeling*, and Attention when controlling *Will*.
- II. Feeling, which is in its essence SENSATION, becomes Emotion when controlling *Intelligence*, and Desire when controlling *Will*.
- III. Will, which is in its essence EFFORT, becomes Appetite when controlling *Feeling*, and Purpose when controlling *Intelligence*.

There are thus six classes of “ Binary Compounds.” A few words of comment on each may be allowed.

(a.) Sentiment is the name generally employed to denote the “ feeling” of admiration, wonder, awe, and the like phenomena, which feminine and romantic characters often manifest. Men of pure intelligence, whether this be developed in a scientific or mathematical direction, are apt to despise sentiment as weak, and the sentimental as effeminate. On the other

hand, the sentimentalist (under cover of some great poetic name) congratulates himself, and laments the mathematician's "deadness" to the beauty of nature.

(b.) In Attention, the Will is *drawn away*, and mastered by some object fascinating to the intelligence. In extreme cases, we may be fully conscious of our position—we may perceive its danger, but we cannot will—for our attention is riveted. It is found, accordingly, that the "attentive" boy who, at school, by docility and natural intelligence, maintains the foremost place, may be sadly overturned in after life, where sterner purpose and a more independent will are required.

(c.) In Emotions, the Intelligence is tasked to supply food to the feelings, which it ennobles from the grade of "sensations" to the rank of joys and sorrows. Dr Chalmers in his *Moral Philosophy* has shown admirably that, if the cause of grief be correctly represented before the mind, emotions will spontaneously arise.

(d.) Again, in Desire, the feelings play the major part, and give origin to "Inclination," so that the Will is proportioned to the intensity of the Sensation.

(e.) On the contrary, in Appetite, the Objective element (the will to obtain an object) is more powerful, so that only in proportion to the Appetite will be the Sensation felt.

(f.) In Purpose, the Will commands the Intellect,

permitting no "discursive" flights or aimless reveries, but advancing straight. The Intelligence, therefore, plays the part of a subordinate, defining the position of the object which the Will claims for itself, and suggesting the probably successful means.

The purposive character stands well contrasted in this world with the ATTENTIVE, being indicated even in early years by a certain independence of manner, not very palatable to "governors and tutors," and being developed, in later years, into a "Legree,"* with intelligence prostituted to low brutal propensities; or into an Albertus Magnus, with a luminous intellect sustained by an indomitable will. Of Albertus Magnus it is stated, that up to the age of forty, notwithstanding an enthusiastic LOVE of learning, his natural stupidity was appalling, and frequently reduced him to despair. But one day, when he was engaged, with many tears and profound sighs, in importunately imploring the blessed Virgin Mary to have compassion on him, our lady appeared in a vision, and granted his request for "intelligence." So Malebranche, stupid as a child and boy, became subsequently eminent as a metaphysician.

3°. But observe, lastly, that the phenomena of the binary order, as they appear in individuals, are conditioned by some other elements of character. These are

* *Uncle Tom's Cabin.*

mentioned by Dr Thomas Reid (in the *Active Powers*, 570, 578), under the names of Opinion, Disposition, and Passion (passion being, in this application, equivalent to provoked affections), and are notoriously powerful in LIMITING purposes to that which is believed possible—emotions to that which is felt to be “good, *i. e.* agreeable,” and attention to that which is regarded as attractive. These deeply-rooted elements, which thus control the minor operations of the soul, appear respectively (when in action) to furnish the well-known phenomena of Faith, Hope, and Love—with their antitheses, Distrust, Despair, and Hatred.

Now, if we examine these phenomena, they are revealed to be “*Ternary compounds*,”—*i. e.* complete fusions of the principles which we have already recognised in their distinctness. In Faith there are invariably combined an inclination of confidence ; 2°. A feeling of assurance ; and, 3°. A perception of certainty. In Hope there are united a perception of good, a feeling of contentment, and an inclination of the will. In Love there is a beholding of the attractive object, a feeling of complacency, and a “benevolence” of the will. In the first the Intelligence, in the second Feeling, and in the third Will, gives each its own predominating hue to the compound fusion ; but, in all, the fusion exists so perfectly, that the principles lose their distinc-

tiveness, and represent by their union the unity of the soul.

These acts of Faith, Hope, and Love, we most justly anticipate to be proofs of the highest vitality in the mind, and of its power—from its own centre—to combine the elementary principles. It is thus that we attribute to ANIMALS (who manifest in their bodies the quaternary compounds of the chemical elements) a much higher vitality than that which, in the vegetable kingdom, is able to combine the same elements only in a ternary form.

If we despise this loose analogy, and repair to a rigorous examination of the fact, we still obtain the same result. In the nations which have been most distinguished for the energy of their character and the vitality of their empire, we find that energy and vitality were due to mutual confidence, to buoyant cheerfulness, to religious, social, and family affections. In the great men of history the same feature is observed, and the greatness they achieved must be referred to faith in themselves (as in Napoleon le Grand), or in destiny, or in God ; in other instances, to imperturbable cheerfulness amid crushing calamities, as in Alfred of England and Frederick of Saxony ; or to their intense love, which overbore all natural obstacles.

Such is our picture of the soul ; a unity in substance, which, in the energies of faith, hope, and love, blends into union, and apparent simplicity, the three elementary principles, and which likewise manifests these principles singly or combined, in the phenomena of purpose, attention, &c., but always, *if in health*, under the regulations of belief, and disposition, and passion.

RETROSPECT.

1. There are three principles in mind DEVELOPED at different periods in the life of individuals and nations, but always coexisting and mutually determinative.

2. Though sometimes detected in the absence of the others, each principle is more generally witnessed in combination (either as major or minor term) with another principle.

3. In the most energetic and vital acts they lose their distinctiveness and coalesce, as do the luminous actinic and calorific rays in the pure solar beam.

If these observations be kept in mind, we may discern a certain symmetry to subsist between the psychological elements of the soul and the primary tissues which are to be described in the following—

REPORT : ON THE BODY.

During life, the unity of the body is intuitively felt by all men ; and though not understood, is yet acknowledged by the wisest physicians.

But after death there are disclosed, upon dissection, numberless phenomena, which the science of anatomy attempts to comprehend, and has indeed reduced to systems, but not to unity.

Accordingly, the student, approaching what is technically called a Subject, for the purposes of examination, discovers three compartments, (a) the abdomen, (b) the thorax, (c) the cranium, which are distinguished—

1st, By their SIZE, which decreases in the order specified ;—

2d, By their WALLS, which become more osseous in the order specified ;—and,

3d, By their CONTENTS, which become more homogeneous in the order specified, and more readily suggest the idea of a centre. Thus, in the cranium he at once detects the brain, the “rendezvous” of nervous filaments, from every part of the body ; in the thorax he detects the heart, the obvious centre of the vascular and pulmonary system, but not so clearly the centre of the muscular, with which, nevertheless, it is struc-

turally connected; in the abdomen he detects a congeries of organs, which appear irreducible to simple arrangement, and do not even present a special element of structure like the muscular fibre or the nerve-tube.

In these circumstances, the aid of an embryologist is obtained, and from him we learn that "in watching the development of the germ (which, invisible at first to the naked eye, is ultimately fostered into that which we call 'the body'), the microscopist observes three primary membranes—the mucous, the vascular, and the serous." He adds that, "from and in connection with the mucous membrane is developed skin, alimentary canal, and the various glands (salivary, hepatic, pancreatic) which furnish secretions;" 2°. "That from and in connection with the vascular membrane are developed the vessels with the heart and muscles;" and, 3°. That "from and in connection with the serous membrane is developed the nervous system."

Having accepted this information on good authority (Remak, as quoted by Dr Bennet), the student reflects on the influence of these facts on his previous thoughts. He perceives that they furnish the desired proof of the congenital connection between the heart and the muscles; and, secondly, that the recognition of the skin and glands, as forms of the mucous membrane, gives to the abdominal viscera a better claim

to centrality in the secreting system. But still he finds he has not obtained a special elementary form distinguishing the structure of this system.

But on again applying to the microscopist for information, the student learns that the three structures do admit of further analysis.

1°. The mucous membrane consists essentially of an amorphous basement membrane, having on the one side a flexus, more or less dense, of capillaries ; and on the other, a layer or layers of nucleated cells.

2°. The muscular structure consists essentially of an amorphous membrane (sarcolemma), having on the one side a flexus, more or less dense, of capillaries ; and on the other, a fasciculus of contractile filaments, solid and fibrous.

3°. The nervous structure consists essentially of an amorphous membrane (neurilemma), on one side of which is a flexus, more or less dense, of capillaries ; and on the inner side, bundles of parallel tubules, full of an oleo-albuminous matter.

Thus, omitting the two elements which are common to them all, we find that the distinctive elements of the three formations are, respectively—the tube, the fibre, and the cell. These severally differ in their *functions* and *conditions of development*.

(a.) The function of the cell is reproduction ; and

the conditions of its development are : 1°. A special kind of nutritive food in the capillaries—(Mr Paget says, a special kind for each individual cell) ;—and, 2°. The dynamic stimulus of *heat*.*

(b.) The function of the fibre is contraction ; and the conditions of its development are : 1°. A special kind of nutritive food in the capillaries ;—and, 2°. The dynamic influence of electricity (which was sufficient to maintain the nutrition of muscle in an experiment by Dr John Reid) ; and the same, or rather correlated force, evoked by the will.† Magnetism has not proved sufficient to induce contraction, except in some very susceptible persons, mentioned by Reichenbach ;‡ and in them the spasm appears due to reflex action in the NERVE.

(c.) The function of the nerve-tube is to transmit a stimulus applied at one point to the other terminal point ; and the conditions of development are : 1°. A special kind of food in the capillaries ;—and, 2°. The dynamic stimulus of the force evoked by intelligence. But what is this force ? If we may trust the recent researches of Baron Reichenbach,§ the animal nerve

* CARPENTER'S *Principles of Physiology, General and Comparative*, pp. 54, 71.

† Ibid., pars. 113, 231.

‡ REICHENBACH'S *Researches on Magnetism, &c.*, edited by Dr GREGORY, p. 30, par. 26.

§ Ibid., p. 129, pars. 161-165 ; ib. p. 60, par. 57, *et passim*.

(which readily transmits the shock of electricity to the muscular fibres, as if these were more specially the subjects of that imponderable) appears to transmit to the brain and ganglionic nerve-cells the so-called odylic force, as if this imponderable were more especially influential on the nervous system.

It is at least certain that cell, fibre, and tube—the characteristic elements of the secreting motor and sensitive structures—do follow peculiar laws of development; and although affected, as they occur in the body, by all the dynamic stimuli (heat, electricity, &c.), yet are more susceptible to one form than to another.

But in contrast with this structural difference, let us remark how these elements are COMBINED in the structure of the body. Thus, CELLS furnish “cineritious matter” to the brain and ganglia in which the nerve-tubes terminate;* and to the muscular† fasciculi they furnish the *bone* to which they are attached. Again, FIBRES constitute the “contractile coats” of intestines and of secreting ducts, to propel the result of the cell action; and they furnish the muscles (ciliary, otic, &c.) which adjust the sense organs for the reception of stimuli. Lastly, the NERVE-TUBE transmits to the secreting organs (more especially by means of the

* CARPENTER'S *Principles of Human Physiology*, p. 333.

† Ibid., p. 261.

sympathetic system) the heat or other stimulus required by them ; and to the muscular fibres (through the anterior columns of the spinal cord) the electricity or other stimulus by them required.

Lastly, it appears that in the truly vital acts of nutrition, motion, and perception, all three elements, by their respective action, harmoniously concur to produce the final result. In the first process, there may be noted a preponderance of the function of secretion ; in the second, of the function of contraction ; and in the third, of the functions of innervation. But yet so intimate is the involution, that to assign to each system its proper part in the vital processes, constitutes the main difficulty in physiological inquiry. Into this delicate physiological question it is unnecessary for us to enter. We are content with the great fact, acknowledged by all inquirers, that in the highest processes of corporeal life the three structures harmoniously and inextricably concur.

RETROSPECT.

1st, The body is composed of three tissues, which are distinguished by the ultimate organic forms connected with them respectively—namely, the cell, the fibre, and the nerve-tube ; and also by the different dynamic agencies, which are most powerful in exciting

or checking their development—namely, heat, electricity, and the nervous force.

2*d*, The membranous tissues are intimately united in the bodily structure—are mutually affected by the action excited in any one tissue—and are closely combined in the processes which distinguish vitality.

The two preceding Reports, like the slow siege operations of artillery, will enable us to grapple with the difficulties opposed to us, in a more scientific and successful manner than would otherwise have been possible. The proposition which they were designed to illustrate was thus expressed: (*a*) "There are three tissues in the human body, which, being physiologically distinct, may be shown, (*b*) in as far as they are influenced by mind, (*c*) to be influenced by distinct principles of the mind, and not indifferently by them all."

The small letters which we have prefixed will indicate the divisions observed in the following illustrations.

(*a*.) Enough, or more than enough, has been advanced in support of the first clause.

(*b*.) In regard to the second clause, it is evidently our duty to omit all discussion of the influence exerted by extraneous dynamic agencies, and by phy-

sical elements, on the structure and strength of the body. It is also equally our duty to omit any discussion as to the *seat* in the body of the various powers of the mind. On this subject the industry of physiologists has been perseveringly engaged and partially successful. Thus, after a course of minute investigation, they appear to have determined the cerebrum to be the seat of the understanding, and the cerebellum to be the seat of the co-ordinating power of the will over combined muscular movements.* But, putting aside the whole question of the "seat" of the faculties (of the *terminus a quo* the mind is manifested), let us advance to the question of the *terminus ad quem*—*i. e.*, of the structure upon which the influence of the mind is ultimately poured.

(c.) The truth of the third and essential clause of this proposition is rendered *probable*, but is *not proved*, by certain facts with which the student during an observational study of mental influence becomes speedily acquainted.

Thus, 1°. Grief, which is undoubtedly a ~~state~~ of FEELING (of "negative" or depressed feeling) rather than of intelligence or will, is noted to depress the *temperature* of the body, to check the various secretions from the mucous membrane, and to favour the de-

* CARPENTER'S *Human Physiology*, pp. 769, 777.

velopment of *cancer*, a *nutritional* disease. Thus, also, Fear—another phase of depressed feeling—*chills* the whole surface,* and renders the mouth clammy by checking the salivary secretion ; and, by the stimulating effect of the “ cold ” upon the involuntary muscular fibres of the bladder, it renders the desire to micturate intense. 2°. Anger, on the other hand, is a *wish* rather than a feeling, and it is manifested by phenomena of the muscular system : the heart’s action becomes stronger, the tendency to gesticulate is increased, and in the paroxysm of rage an unnatural *force* of contraction is exhibited.” †

3°. Whereas prolonged study, however it may affect the viscera and thorax *indirectly* by diminishing the energy of nutrition and circulation, is directly hurtful by producing wakefulness, hallucinations, and the like phenomena of cerebral excitement.

Yet these instances are evidently complex effects, being in part the effect of the direct agency of mind in raising or depressing the temperature, in diminishing or increasing the muscular tension, and in stimulating or exhausting the nervous force ; and partly the effect on the neighbouring tissues of the fall or increase of vitality in the tissue immediately affected.

* VAN SWIETEN’s *Commentaria*, p. 148, on the 104th Apothegm.

† Ibid., p. 148.

They render the truth of the principle (which we advocate) very probable, inasmuch as they are capable of being explained thereby; but before being explained, they prove nothing.

The true and sufficient argument in favour of the statement will be found in the marked correspondence between the preponderance of a mental principle among the principles, and the preponderance of the appropriate tissue among the tissues. This method of proof is quite feasible, for we already know that both the principles and the tissues do manifest themselves in this disproportion to their complements. To the reader may be left the pleasure of marking the agreement of disproportion to which we refer, as it is to be noticed in men of strongly-marked character, in races of decided nationality, and in the various orders of the animal kingdom. Our own attention must be confined to the agreement as it is to be noticed during the three periods in life.

We notice, accordingly, that in childhood—it might be added, among *females* generally—there is a preponderance of Feeling; and there is also superior activity in the processes of nutrition, and in the development of “cell action.”

2°. In the season of youth—as the Romans reckoned it—from the seventeenth to the forty-fifth year, there

is a preponderance of the volitional element, and a corresponding vigour in the muscular system, superior to nutritional activity or intellectual excitability.

3°. Wisdom—the highest form of intelligence—pertains as a prerogative to age, and accordingly we find that the temperature of the body is not so easily maintained as in youth; the force of muscular fibre begins to be diminished, but the nervous system has reached its full development as predominant, and controls all vital operations.

Even in individual cases, the correspondence to which we have referred may readily be detected, if the observer be skilled in analysing the complex mental acts which are exhibited. Thus in the act which we ordinarily term “Will,” there are to be distinguished two elements, varying in different men, and in different conditions of the same man. Of these, the first is the Intellectual, whereby we perceive our own position—the position of the object desired—and the means most suitable; and in proportion to it, will be the distinctness, tenacity, and sagacity of our Will. The second element is the truly volitional effort towards the object or sensation desired, and in proportion to this element will be the force with which the object is approached. The first element is Intellectual, and in proportion to its share in the complex act, in relation

to the second or volitional element, will be the development of the nervous, in relation to the muscular tissue.

From these and similar investigations, we have formed the hypothesis, that the Mind acts upon the body by the action of each of its three principles on a corresponding corporeal structure. So that, 1st, Intelligence excites, and stupidity narcotises the nervous structure ; 2d, Feeling stimulates, and apathy dulls the secretory process ; 3d, Effort strengthens, and inaction weakens the muscular tone.

All other apparent influences of any one of these principles should be referred to the "*physical*" effects of the original change upon the neighbouring corporeal structures not originally affected, or they must be attributed to the co-operation of another psychical principle than the one which has attracted attention, and which is alone acknowledged.

With this statement we close the pleadings in favour of the hypothesis.

CHAPTER III.

H O E M I X : OR, THE STRUCTURE.

IN the first chapter of the present Essay, we endeavoured to define with accuracy that limited portion in the field of science which was to constitute the seat of labour. In the second chapter we were engaged in those processes which are found necessary for the establishment of fundamental principles. It now remains for us to erect a structure, a methodically arranged repository for the crowd of facts pressing upon our attention, which illustrate the "influence exerted by the mind in the production and removal of anomalous and morbid conditions of the body." That influence, which the public have noticed from time to time in special instances, has constantly been acknowledged, feared or employed, by physicians in their general treatment of disease. But the diseases in which their attention has been most fully directed to this element, are the nervous disorders, including the various sub-

divisions of lypemania, epilepsy, suicidal and phrenitic mania, hysteria, and hypochondriasis. It is consequently in the annals of nervous disorder that assertions and proofs, both of the morbidic and curative power of mind, are most frequently found. Thus, among French physicians, Mons. Esquirol * remarks, with reference to the production of insanity: "*Moral causes are much more frequent than physical. A comparison of the record of moral causes, kept at my establishment at the Salpêtrière, proves this; and the reports which I have since made at the same hospital, and at Charenton, confirm it. The memoir read by Pinel at the Institute in 1807 also demonstrates the same fact. A report made in Pennsylvania in 1812 gives the same result. Experience has demonstrated the same thing to Mr Tuke, founder and director of the Retreat, near York; and, in fine, the same has been everywhere observed, because man is everywhere the same.*"† And again, on the special subject of melancholy, he remarks: "The moral affections are the most frequent cause of lypemania, and their disorder is the most prominent symptom of it, and in the hands of a skilful physician they are a powerful means of

* ESQUIROL, *Mental Maladies*. Translated by E. K. Hunt, M.D. Published at Philadelphia in 1845.

† Ibid., p. 48.

cure. Disappointed affection, jealousy, fear (which is the perception of a FUTURE ill, or one which *threatens* us), and fright (which is the perception of a present ill), are the passions which produce the greatest number of lypemaniacs, particularly in youth, among women, and in the lower classes of society ; whilst ambition, avarice, wounded self-love, reverses of fortune, and gambling, are the most frequent cause of insanity among adults and men of mature age in the highest classes of society, and in those countries whose customs and institutions foster all the social passions."*

The instances adduced by Mons. Esquirol in support of these assertions (and many similar instances are related in the admirable journal conducted by Dr Winslow) are not less valuable than numerous, because we cannot regard the phenomena of insanity as other than the extreme and well-marked results of an influence exerted in a minor degree throughout the whole community. We cannot regard the victims of insanity to be other than the "dangerously wounded" in a struggle from which few men return unscathed, against the influence of "domestic troubles, reverses of fortune, disappointed affection, jealousy, fright, wounded self-love, and anger." As the extreme and fully developed results of the uniform tendency of such mental affec-

* ESQUIROL, p. 214.

tions, the cases carefully recorded by Esquirol, Morrison, Ellis, and their medical brethren, are most valuable, and enable us to recognise the partially-developed results which occur in general practice.

And now we proceed in our labours to erect a structure, consisting of four great compartments, capable of admitting any number of facts which may tend to illustrate the following four statements :—

I. Love, Hope, and Confidence (the most vital acts of the soul) are the influences most powerful in maintaining and in restoring health of body ; health being marked, not by exuberance of *glee*, but by vigorous nutrition, motion, and innervation, and by resistance to morbid exciting causes.

II. Suppression of Love, Hope, and Confidence, if *complete*, is FATAL, and, if *chronic*, is most powerful in checking the vigour of the bodily functions, and in diminishing the resistance of the vital powers to morbid exciting causes.

III. Inordinate continuance of Attention, Emotion, and other “binary compounds,” will be injurious by exposing the structure, which is unstimulated by mind to the reflex action of the other tissues, and to external exciting causes of disease.

IV. The isolated exercise of ONE principle will be

injurious, by exposing the unstimulated structures to external influences, and to the physical reflex action of the force developed in the structure which is stimulated by the mind.

These four wards we throw open to the public, and we will be gratified by early applications for admission from any "startling" facts known to the reader. Meanwhile the following cases may be adduced in illustration of the statements :—

I. Love, Hope, and Confidence are the influences most powerful (*a*) in maintaining and (*b*) in restoring health.

(*a*.) 1. Thus the *domestic* affections make the bed of sickness almost a luxury; they impart a healthy atmosphere to home; they obscure from all men the miseries of life; and they cast a halo of cheerfulness around the daily toil whereby the poor man's family is supported. And when distempers invade the family circle, the mother or the wife, in zealously tending those whom they love, are protected by the very warmth of their affection from the contagion of disease.

Again, of the *SOCIAL* affections, it has been remarked by Dr Thomas Reid,* "Benevolence, from its very nature, composes the mind, warms the heart, enlivens

* REID (Sir W. Hamilton's edit.), p. 565.

the whole frame, and brightens every feature of the countenance. IT MAY JUSTLY BE SAID TO BE MEDICINAL BOTH TO SOUL AND BODY."

The religious affections, which are the true life of the soul, are also marked in their beneficial influence over the body. Animated by a sense of duty, and a feeling of Divine protection, the physician enters with safety into spheres of contagion in which his body would receive the stamp of death were it unsustained by these high principles, and were it chilled by prudential forebodings. A yet higher enthusiasm, in those days when the martyrs were subjected to "all manner of affliction," enabled them, amid inclemencies of weather and privations of food, on the mountain side, or on the moors, to maintain their life with wonderful vitality.

(a.) 2. The beneficial tendency of a cheerful temper, not only in "sweetening the breath of society"—(Dr CHALMERS)—but also in making the happy possessor of it able, as Dr Reid observes, "to enjoy everything that is agreeable in life, to recover from disappointments, and to avoid taking offence," are recognised by all men, and have been affirmed by the wisest of men in these words—"A merry heart doeth good like a medicine." Of its prophylactic power, an instance *

* Dr HENDERSON'S *Lectures*.

has been recorded in the exemption enjoyed by the light-hearted Irish brigade, during the Peninsular War, from the fever which thinned the ranks of their more desponding comrades in the English divisions.

(a.) 3. Of the Hygeian influence of Faith, many testimonies might be gathered both from professional and non-professional authorities. To this principle are due the virtues of Mr Caxton's camphor-bag, so enthusiastically belauded by Dr Squills; and of the many amulets to keep off the "evil eye," and charms to scare away the aggressive demon, and prescription water to remove "wind in the bones" (a common complaint in Syria), which are so powerful in the East where faith abounds; and even in the sceptical West, amidst the enlightenment of the present century, cures, not few in number, and wonderful in their character, are effected from no diuretic, diaphoretic, stimulating, or sedative preparations known to pharmacy, but from the benign influence of a profound confidence in the energetic and favourable prognosis of a far-famed and *distant* practitioner.

These and other instances, which a more prolonged attention to historical records might secure, suffice to prove that these highest and most energetic acts of the mind are powerful in preserving health. In restoring

health, the skilful physician makes it his chief aim to invigorate these normal functions, not less than the normal processes of nutrition and the other bodily functions.

(b.) 1. Thus, in regard to "Confidence." "If you gain the confidence of your patient," says Monsieur Esquirol, "it is a sure test of an approaching cure."* "The return to reason takes place when, by his attentions and discourses, a skilful physician knows how to possess himself of the confidence of the patient. This first step taken, the cure is easy."† And again, "The name, the consolations, the counsels of a great physician, are often more useful than his remedies, because his reputation commands confidence, and permits us not to *doubt* respecting a cure."‡

(b.) 2. In regard to the Social Affections: "An obvious advantage," says Dr F. Browne, "arises from encouraging every kind and generous feeling among the insane, and from convincing them that they are of some importance—that individuals are dependent upon their charity—that gratitude and blessings may attend their exertions."§

(b.) 3. In regard to cheerful disposition, *its* restoration and maintenance are evidently the main objects

* ESQUIROL, p. 79. † Ibid. p. 216. ‡ Ibid. p. 80.

§ *Report of the Dumfries Royal Crichton Institution, for 1847*, p. 31.

of the physician's desire in the succession of exhilarating amusements (the music, the dance, the billiards, the library, the private theatricals, the Institution Register), which constitute the chief part of the moral influence now so happily established.

The facts, then, are undoubted, as truths appealing to the well-trained eye of an experienced observer. Are they facts which we are prepared to understand by means of the hypothesis advanced in the preceding chapter ?

From the speculations therein contained we were led to infer that the three component structures of the body are stimulated by different principles of the mind, and would be most healthfully developed when the psychical principles were most harmoniously combined ; and since the psychical principles are most harmoniously combined in acts of love, and hope, and faith, therefore by love, and hope, and faith, the body, from the co-ordinate exaltation of each structure, will be most invigorated and rendered hale.

II. Suppression of Love, Hope, and Confidence, if sudden and complete, is fatal ; and, if chronic, is most powerful in checking the vigour of the bodily functions, and in diminishing the resistance of the vital powers to morbid exciting causes.

There is much virtue in "if," says Touchstone; and to the truth of this opinion we may now subscribe. Fatal cases would be frequent, if sudden and complete suppression of these functions were common; and they are rare, simply because it is exceedingly difficult to quench all love, to eradicate all hope, and to subvert all confidence. A man will fight for these as he would for his own life. He will refuse to believe that his hopes are annihilated; he trusts "it is not so;" and "if it is so," still all may be for the best; and though hope may give way, yet love will remain, and urge him to new exertions for the maintenance of those whom he holds dear.

Yet instances do occur. The aged Eli, when he heard that the Israelites were fled before the Philistines, and that Hophni and Phinehas were slain, and that also the Ark of God was taken, fell back dead. A nobleman in the field of battle noticed with great admiration the prowess of an officer, but with sorrow soon after he marked his death. Moved by curiosity, however, he advances to inspect the corpse: it is his own son; the father sinks beside him, dead.

Chronic cases are very frequent. The pining of the love-sick maiden is proverbial, and a broken heart is declared to be no myth. The bitterness of hope deferred, and the agony of being rudely disturbed from

a fond dream of confidence, are too well known in the human family. Numerous cases annually occur of fatuity, lypemania, furor, and *tædium vitæ*, resulting from no external changes in the meteoric or terrestrial forces, but from some check to the vital functions of confidence, and affection, and cheerfulness.

A reference to the writings of Esquirol sufficiently proves that these checks are the prolific sources of mental and consequent bodily disease.

“Of all moral causes, those which most frequently cause insanity, are pride, fear, fright, ambition, reverses of fortune, and domestic troubles. By domestic troubles I express all oppositions, misfortunes, and dissensions that grow out of the family state. One can scarcely imagine how strongly this cause operates upon the minds of the people, especially females.”* And in the two tables of moral causes furnished by him,† we find that, in the first ($\frac{11}{12}$ or) three-fourths, and in the second ($\frac{1}{17}$ or) one-half of the cases are due to the four causes—“domestic troubles, disappointed affection, jealousy, and reverses of fortune,” which are certainly potent also in suppressing hope, and confidence, and affection.

Such cases are analogous to the instances in medicinal annals, which prove that the higher the vitality and the greater the energy of any physical organ, the more

* ESQUIROL, p. 46.

† Ibid., p. 47.

dangerous and fatal is a suppression of its function. Thus, a check to transpiration will occasion violent rheumatic and inflammatory actions ; a cessation in the activity of the renal organs will occasion profound coma and death ; a prolonged suppression of the hepatic function will be succeeded by dangerous forms of jaundice, by retardation of the blood in the portal circulation, and by consequent ascites.

Now, in the preceding remarks on the danger of a suppression of the higher psychical functions, we find nothing discordant with the theory which has been advanced. If it be true that the exercise of intelligence, feeling, and volition supplies a stimulus for the maintenance of each respective tissue, the sudden suppression of all three principles in their harmonious combination will be a removal of influence at the moment when the tissues are in intimate relationship to each other, and also sensitively responsive to the soul. The suspension is equivalent to a temporary death of the body, *in as far as it is anything to the mind* ; and unless the man—*i. e.* the soul in the body—be able to rise above the calamity, and to find new objects of love and hope, the temporary death may prove final ; for though the corporeal structures, under favourable conditions in external nature, may retain their vitality even after the terrible shock, yet will they waste away as time

rolls on, unless new objects revive the energies of the mind. But if new occasions perpetually excite in the mind only the baneful energies of involuntary distrust, and hatred, and despair, healthy nutrition cannot be maintained; and then may we behold the lank and miserably sensitive frame of Jean Jacques Rousseau, the squalor of the Athenian Timon, or the wan aspect of "Christian and Hopeful" in the dungeons of Doubting Castle.

III. Inordinate continuance of Attention, Emotion, &c., is injurious, by exposing the structure which is unstimulated by Mind, to the reflex action of the other tissues, and to external exciting causes of disease.

Attention, emotion, desire, and the other "binary compounds," are subject, *de jure*, to the regulation of the central power; but, *de facto*, they often manifest insubordination. Thus the drunkard may commence his sad career of "alcoholism" on the rational principle of self-love, to secure personal comfort, but ultimately, from long employment of the means, he forgets the end, and lives brutishly in the practice of the morbid habit. Such habits lead to MORBID conditions of the body, as from the preceding hypothesis we naturally expect.

For to those mental phases wherein is discernible a

fusion only of two principles of mind, we cannot expect a response of more than the two corresponding systems of the body. The third system continuing to be subject to the action of external agencies, and to the physical influence of the neighbouring tissues, but no longer (equally) subject to the influence of Mind, will (like every organ in the absence of its appropriate stimulus) gradually deteriorate in functional activity, and will assume an abnormal character.

Accordingly, as there may be formed by intelligence, feeling, and volition, three "binary" compounds, in each of which one principle is unexercised, and consequently one bodily structure unstimulated, there will arise three types of mental character, which we leave for the study of the psychologist, and three classes of "morbid habits" of the body, which we will now examine as they are exhibited in extreme cases.

First morbid habit. From the exclusive exercise (or rather *indulgence*) of desires and appetites, wherein the feeling and will are combined, but the intelligence is only partially and accidentally, if at all, implicated, there must result a constitution habitually insensible to the stimulus of intelligence, and also less sensible to the other stimuli proper to the nervous system.

The type of this class is *the idiot*, in whom it is unanimously agreed there exist propensities and de-

sires, but only faint traces of intelligence and intelligent will and feeling, and in whom correspondingly there are processes of secretion and acts of motion, but an imperfectly developed nervous system.

"The insensibility of idiots is sometimes most remarkable. We have seen these wretched beings bite and lacerate themselves. I have seen an idiot who, with her fingers and nails, had pierced through her cheek, play with a finger placed in the opening, and end by tearing it to the very commissure of the lips, without seeming to suffer. Some of them had their feet frozen, without paying the least attention to it. These wretched beings are reduced to such a degree of insensibility and brutishness, that they do not understand the cause of their pain, nor distinguish whether it is internal or external. Their consciousness of self-existence is so slight that they are not aware that a disordered portion of the system pertains to themselves. When sick they do not complain, but remain gathered up in bed, without manifesting the least suffering, and without being able to divine the cause or seat of the affection."*

Such are, no doubt, the extreme results of a course pursued probably for some generations, but they must be admitted as proofs of the tendency of an exclusive life of desire and appetite.

* ESQUIROL, p. 469.

Second morbid habit. From the like continuous life of dreamy sentiment and emotion, without due admixture of the vigour of purpose and will, there must emerge a class of diseases consequent upon a constitution in which the muscular system is unaccustomed to the stimulus of will, and comparatively insensible to other dynamic agencies of kindred energy. There may be, of course, a culpable indulgence in mere sentiment and emotion, while yet the will is active and chooses to pursue this aim; but the ultimate tendency of such a life is to weaken the volitional element, and to generate "imbecility."

"Imbeciles are nothing of themselves—they produce nothing; and all their movements, both intellectual and moral, are aroused only by foreign impulses—they neither act nor think but through others. *Their will is without energy—they will, and they do not will.*" *

Such is the portraiture of their mental condition, as drawn by the experienced hand of Esquirol. Their bodily constitution is correspondingly marked, not by defective brain—for it is in many cases adequate, and in some even voluminous—but by the laxness of the muscular fibre, with a "dwambling" irresolute gait, and "exceeding indolence."

A beautiful story of an imbecile boy restored to

* ESQUIROL, p. 452.

self-consciousness and full vitality by the moral shock of GRIEF upon the death of the doating mother, is contained in the "Country Doctor's Tale," in vol. lxxv. of *Blackwood's Magazine*.*

Third morbid habit. From the continued exercise of intelligence under the influence of will, and of will under the influence of intelligence, but in both cases to the exclusion of feeling and its influence, there must emerge a class of diseases from a constitution marked by deficient stimulation of the secretory functions.

As in the mental faculties—attention and purpose—there are combined the two principles which men most highly esteem, we might expect that the type of this constitution would not, like the preceding, be found in the asylum. Yet what other residence is so suitable for the hypochondriacal and melancholic, the evident types of this diathesis? In them there is not an excessive, but a VITIATED secretion, attended with an involuntary concentration of the mind upon the various phenomena of abdominal derangement. That in both these affections the disease is primarily "abdominal," is a doctrine believed by the people, and taught in every medical school.

Thus Esquirol says, "Oneness of affection and thought renders the actions of the melancholic uni-

* Vol. LXXV., p. 542.

formly slow. He refuses, indeed, all motion, and passes his days in solitude and idleness. *The secretions are no longer performed, or present remarkable disorders*—the skin is arid, with a dry and burning heat. Transpiration has ceased (in the body), while the extremities of the limbs are bathed in sweat.”* And again he says, “The excretions seem to be almost altogether suspended in lypemania, transpiration no longer takes place, and the urine is retained sometimes for one, two, or even five days. Constipation is obstinate, and persists for weeks or months.”† He adds, “All the symptoms appear to depend upon the disorder of some VISCUS more or less remote from the *centre of sensibility*.”‡

Melancholy and hypochondriasis are the extreme results ; but it is true that in a minor degree the same disorders of the animal economy (recognised under the well-known name *dyspepsia*) occur among the most talented of mankind. They sadden the life—they irritate the temper of the student, the man of letters, the merchant, and the statesman. By them, those of great vitality who confine themselves to study, from the extreme ardour of their temperament, and not from inability to cultivate the emotions, are too often consigned to a premature death. We may instance

* ESQUIROL, 204, 205.

† Ibid., 228.

‡ Ibid., 214, 215.

"the learned Pic de la Mirandole, to whom a passionate love of study proved fatal—the gentle Raphael, whose devotion to the art of painting shortened his existence—the wise and precocious Vauvenargues, prematurely hurried to the grave at the age of thirty-two—and the delightful Mozart, whose untimely death, at the early age of thirty-six, might have been easily predicted."* But those of weaker central force, who, from inability to shake off their habits and to renew the full play of the higher functions, pursue a single train of dreary thought, so far from being the boast of intelligence, are at once its victims and its disgrace.

Idiocy, Imbecility, and Lypemania, the three results of a protracted dormancy of the intellectual, volitional, or emotional element, are to be feared from the gratification of the appetites, the sentiments or the intellect, ONLY when the governing principle (the self-conscious and self-loving soul) has ceased to maintain its supremacy. Temporary inconveniences may result (and they often do result) among the sane and vigorous, but these are quickly apprehended by the central power, and rectified by change of life. The glutton warned by increasing corpulence, and other symptoms

* *Mental Dynamics*, p. 479 of the fifth volume of the *Psychological Journal*.

of disorder, retrenches his diet, lives abstemiously, and vies in age with Count Cornaro ;—the poet, warned by symptoms of debility, throws off his dreams, or pursues them only amid the healthy influences of a pedestrian excursion in the romantic Highlands ;—the grave and indefatigable student, warned by symptoms of dyspepsia, lays aside his books, and, amid the robust pleasures of the Malvern Hills, and the æsthetic influence of the social circle, finds again that tone which he had lost.

But those who are deaf to the intimations of this inner feeling, to the hints of friends, and the disinterested admonitions of “the doctor”—the men who “will and must” pursue their contracted course—are speedily brought to the grave or the asylum. Either they sink as **MINDS**, or they perish as **BODIES**.

IV. The isolated exercise of *one* principle will be injurious, by exposing the unstimulated structures to external influences, and to the physical reflex action of the force developed in the structure which is stimulated by mind.

It often happens that, in a protracted effort of attention, one man continues the complex act until the volition ceases ; but ideas, in uncontrollable succession, still rise and range themselves before him, as when a force, propelling a railway carriage, is suddenly withdrawn,

but still onward rolls the carriage. Such are the "phantasies of dreaming" and of Mesmerism.

"In sleep," says Eubulus, "there is *no volition* at all : the phantoms of the imagination are never stationary ; they succeed each other with such rapidity, that they can never be made the subject of contemplation." * As to Mesmerism, "the price to be paid," says Mr Townshend, "for the increase of mental powers and of sensitive capabilities which attends upon the state of Mesmeric sleep, is a certain forfeiture of the *Will*."†

But in another man of tougher fibre and less suggestive mind, the same complex act is terminated by a refusal of the intelligence to advance further, and by an irritation of the body under the backward-thrown energies of the will. Such a man, after fruitless efforts and violent contrivances, by keeping his feet in cold water, and wrapping moist cloths round his head, or by "drumming" on the table, and pacing up and down his room, is at length compelled, if he value his life, to abandon his efforts, and to be content with mediocre intelligence, at least for that evening.

The analysis of Emotion may, in like manner, issue in one or other of two results, according as the intellectual or sensational element preponderates ; for in one

* *Psychological Inquiries*, p. 16.

† TOWNSHEND on *Mesmerism*, p. 199.

man we find the PERCEPTION of a good or of an evil surviving the power to shed a tear, or to smile his thanks ; while in another, especially in the *child*, we may hear the sob of grief, and witness on the countenance the lineaments of joy, when intelligence is hushed in sleep. Nay, even while awake, the child is happy, or he is sad, " he knows not why."

The passions undergo the same dissection. In one case the volitional element preponderates, and then we witness spasmodic twitchings in the muscles, grinding of the teeth, the rolling eye, the long-drawn howl of fury, while the sensations appear exhausted, and the sensibility is numb. But in another, and especially in the female sex, we perceive the volitional element to be too weak to maintain the contest, and " her own feelings" work upon the lady in the asthenic fits of hysteria.

In tracing the effects upon the body of the resolution of the mental acts into their simple elements, we have evidently to consider only three states, which occur, respectively, from the over-stimulation of the nervous, the muscular, and the secreting systems. These states are not HABITS, which, being long maintained, are indicated by MORBID conditions of the body, but are extraordinary, and are accompanied by anomalous phenomena. They are (*ανωμαλαι*).. *un-even-nesses* produced by an undue

exaltation of one principle, and producing a correspondingly undue exaltation of one structure. They cannot last without remissions. Even if repeated frequently in the course of a day or week (as in the fits of epilepsy), they rapidly deteriorate the system, and destroy the life.

The anomalous conditions of the body are perhaps best seen in the phenomena of—1st, Mesmerism ; 2d, Epilepsy ; and, 3d, Hysteria.

The phenomena of Mesmerism are many in number, curious in character, and doubtful in origin. In number, however, they may be reduced to two classes of facts—those pertaining to the condition of sleep, and those pertaining to the condition of waking *in* sleep. In character they are marvellous, and, to a scientific mind, incredible on any authority inferior to his own experience and judgment. The marvellousness does not consist in the SLEEP : that feature is undoubted, and is explicable by the ingenious theory of Dr Bennet,* as the result of exhaustion of Will. Nor does it consist in thoughts, fancies, and utterances on the part of the Mesmerised, for these phenomena are perceived in the ordinary dreamer and somnambulist, and are explained from the *partialness* of the sleep. But when the judgments and “ fore-castings,” which arise spontaneously

* On the Mesmeric Mania of 1851.

before the mind of the sleeper, are proclaimed to exceed, in acumen and truth, the sagacity of the most wakeful, THEN our wonder is excited, and our incredulity is called into force.

Fortunately it is unnecessary for us to enter into the question of the CORRECTNESS of the clairvoyant's revelations. The passing of thoughts (correct or incorrect) through the intellect of one whose will is for the time "forfeited," and whose feelings of pain (as in the well-known cases of Dr Easdale among the Hindoos of Calcutta) are asleep, is the point of interest to us. Here is one for the time without will, without feeling, but with intelligence, reduced to that state by the fatigue of a protracted effort of the attention. Many men of strong will—i. e. of will stronger than their "involuntary intelligence"—are impregnable; they cannot be mesmerised, and are pronounced "insensible to the subtle fluid." But persons of more sensitive construction, who indulge in thought, and allow one to suggest another, according to the laws of association, and who cannot stop thinking when they wish, in whom the "involuntary" intelligence far exceeds the will—such persons are the favourite clairvoyants.

In them the emotions are first to be calmed; for "fear," says Mr Townshend, "is a great disturber of the

process," probably because it stimulates the patient to WISH most earnestly to be up and away. The feelings being soothed, the attention is next to be directed to an UNINTERESTING *object*, which is seen to be "objective" in proportion to the will, and therefore gradually dies away from the sight as the will becomes exhausted. The object and the objective gradually fade away, and the mesmerised is left without control over his own thoughts. His INTELLIGENCE is unexhausted, for there is not much in a brass coin to satisfy the intellectual appetites ; but the exhaustion of the will prevents the man from recognising the *outward* as outward to HIM, and from rejecting the suggestions of a stranger, if foreign to his own purpose. The man, then, has strength enough to be willing to think, but not strength enough to think whether he will. His brain is sensitive to the slightest suggestion, but he himself is blind to the grossest misstatements. As to intellectual vigour, he cannot be complimented ; and as to nervous condition, he need not be envied. For though such tickling of the cerebral convolutions may temporarily wipe away all traces of nervous headache, it exalts and fosters the previous susceptibility.

We fear, therefore, that beside the forfeiture of will (the price demanded by Mr Townshend) the clairvoyant must pay a further penalty while enduring a

nervous system morbidly sensitive to the proper internal and external stimuli.

2. In the anomalous condition of epilepsy, the principal phenomena presented are, (a) contortions of the body, (b) loss of consciousness, and (c) disordered circulation, with bloated face, swollen tongue, &c. The loss of consciousness and the contortions are explained by the morbid action of the heart, which propels the blood with such violence and over-haste, that instead of tranquilly nourishing the nervous system, it presses upon the substance of the brain and spinal axis, and causes intermission of consciousness and excitement of the motor nerves. The blood may be extravasated, and act as a local irritant, but the primary fault lies in the undue action of the heart.

This "uneven" action of the heart may result from physical causes, which physicians will explain; but it also results from mental influence. When? When, as in cases of fright, the flash of intelligence, which reveals the danger, passes quickly away, and is succeeded by a blind instinctive effort, and an intense *wish* to escape. "A child being threatened with a bite from a dog, falls into fits, which are renewed as often as he heard the bark of the dog (*i. e.* as often as he was again frightened)." * "A soldier mounting a breach is

* ESQUIROL, p. 153-154.

startled by the fall of a shell beside him ; he is instantly seized with epilepsy." In an English cotton-factory, a girl was seized with epileptic fits ; the neighbour working beside her at the time is horror-stricken, and falls into similar convulsions ; the panic spreads ; fear reigns ; the work is broken up, and the patients increase in number, until a physician, summoned from the nearest town, reassures them by his air of confidence and promises of speedy cure ; and he does cure them, by bringing them all forth to dance merrily upon the green.*

3. To hit off the Protean phases of hysteria in a single paragraph is impossible. As a CHRONIC state, it has been said to depend on turgidity in the veins within the spinal column, whereby pressure is made on the spinal axis, and consequently nervous pains are excited, APPARENTLY in the joints and limbs of the body, in the kidneys, lungs, or head. As a chronic state, therefore, it may be due to "inaction of the heart." But as a paroxysmal and anomalous condition, it generally results from the "non-development" and "non-gratification" of THE DESIRES, which intense feeling awakens.† In desire there are two elements—the volitional, more strong in men ; and the sensational, more

* DR HENDERSON'S *Lectures*.

† *Ante*, p. 20, 21.

potent among women. But both in men and women desire is "a stimulating of the will by feeling." Now, if the will and wish, thus provoked by intense feeling, be forbidden, and be checked by sense of decorum, sense of despair, or by weakness, then the feeling will occasion a strong response to itself in the mucous texture; but in the absence of will, the muscular texture is not stimulated by any mental principle, and remains "passive." But, meanwhile, the mucous texture, by its response to Mind, is in a peculiar condition of potency, and, by virtue of physical laws, it excites action in the neighbouring muscular and nervous systems. Hence the peristaltic action of the œsophagus, the spasm in the throat, and the other features of the disorder.

Thus the PAROXYSM of hysteria appears to be the PHYSICAL result upon the muscular and nervous systems of a peculiar condition of the mucous texture, produced by imperfect and ungratified desire.

The strictly mental influence of feeling upon the body (without this subsequent physical reaction) is better seen in the analysis of emotions, when these, becoming too big for words, and too intense for intellectual realisation, press heavily upon the vigour and integrity of the secretory system. Thus in joy and

gladness there is abundance of lactic, salivary, and other secretions; whereas in *sorrow* they are suppressed, and under excessive pain or deep grief they are vitiated. By such vitiated secretions in the mammary glands, the sucking babe has been speedily destroyed; and by similarly vitiated saliva (the product of pain, and rage, and fear) the mad dog has doomed his unhappy victim to a terrible death.

But on these phenomena it is unnecessary to expatiate; they are well known, and their connection with the sensational and æsthetic element in our nature is the fact most certainly determined by physiologists. This only we may say, "Happy the dog that can get rid of its venom by a snap at the nearest child; unhappy the man who, no less badgered, and teased, and kicked about in this world, is yet compelled to 'swallow his bile!'" That vitiated secretion, circulating in his blood, jaundices his view of all creation, and embitters his enjoyment of this fair world. Alas, for the man of sensitive feelings! His liver—as Horace found by personal experience—is sure "to burn with bile;" and though a dose of the hellebore of Anticyra, or the more convenient and modern "compound blue," may evacuate the poison for this time, yet a new supply will be evoked by the chance allusion of an

unthinking acquaintance, or the unpalatable advice of a true friend. On the other hand, and more seriously, we might say, Happy is the man who, by virtue of his moral character as a man, far raised above the brute creation, can maintain in patience the full possession of his soul—who is able, by a confidence based on the past and a hope directed to the future, to bear quietly the provocations or gloom of the present. To this self-possession are directed the earnest aspirations of all rational and religious men.

Finally, in the curative treatment both of the anomalous and morbid habits of body, it is evident the physician must seek to stimulate those elements which have been neglected, and to check or control the principle which has been inordinately exercised. In this treatment advantage may be obtained from the use of PHYSICAL remedies to stimulate or to narcotise the physical structure. But the true cure of the MAN will be effected (in maladies due to mental influence) only when he has himself learnt to control his habits, and to check all his eccentricities by force of some central principle—especially by an ENLIGHTENED, willing, and cheerful obedience in love to the communicated will of the great and good Spirit—our Father who is in heaven.

We must not, however, in this unprepared manner invade the temple of religion ; but pausing at the threshold, we now terminate the Thesis with a retrospective sketch.

FINAL RETROSPECT.

1. The mental acts, wherein the soul gathers around it in harmonious union the constituent elements of its nature, are the most powerful influences in maintaining and in restoring health of body.

2. But in very consequence of this vitality, they cannot be checked, chilled, or suppressed, without correspondingly serious injury to the health of the body.

3. Though not checked, chilled, or suppressed, these central acts of love, and confidence, and hope, may insensibly become weak and emasculated by the drain upon them, from the *desires*, &c., which are their own progeny, and borrow strength from them. Such "binary compounds," being imperfect representations of the soul, act imperfectly upon the whole body, and tend to develop a morbid condition in one or other texture.

4. These binary compounds, having no vital affinity between the two constituent elements (apart from the vitality of the central mind), are apt to be resolved into their components. That component principle, which is superior in strength, being left in solitary action, produces a correspondingly one-sided development of the body—an uneven or anomalous condition of the animal economy.

CONCLUSION

FROM the earliest days of human inquiry, the influence of the mind upon the body has been observed. Why, then, have the instances of that influence not been "methodised and explained" long ere the 25th of December 1854? * Other facts, whose existence was unknown five centuries ago, have been perceived, investigated, reduced to laws, and are now employed in guiding ships over trackless waters—in combating the wind and tide—in confounding former conceptions of time and distance—in revolutionising former systems of agriculture, of engineering, and of war. But these facts—which the first century recognised as important, and which every age, according to its knowledge, has employed in the treatment of disease—have been reduced to no principle whereby we can predict a special bodily disease, or class of diseases, as the invariable consequent of a mental influence. Surely a peculiar difficulty surrounds this special subject, else

* The day appointed for the giving in of the Competition Essays.

our excellent predecessors would have succeeded in this as in their other efforts.

Upon consideration, it appears that, to obtain a constant equation between a certain mental state and a definite bodily condition, is a matter of peculiar difficulty, because both terms in the equation are variable in value. There is a mental reaction and a mental train of phenomena according to the individual mind ; there are physical reactions and a physical chain of phenomena according to each constitution.

1. We cannot isolate a mental phasis by giving it a special name. In every man each mental state bears a relation to his whole character, and has a tendency, or lacks the tendency, to suggest and call up another state. Thus, in some men of feverish irritability, in whom mental phenomena are rapidly developed, the element of *fear* is scarcely excited before desires, purposes, and efforts succeed ; in the more phlegmatic, the fear continues to be the sole element, and in them we might obtain the formula—" Fear causes diarrhoea." Yet in the more psychical character, fear does exist *WITHOUT* diarrhoea, because *the tendency to mental sequence is stronger than the tendency to bodily concomitance*. So also under "jealousy" one man will become restless, irritable, and tyrannical ; but another will mope, lose appetite for action, and shun the presence of his wife.

We cannot expect that the jealousy of BOTH will be marked by the same bodily derangement. The same variation is manifest in other mental sequences ; and, therefore, when one term is so apt to be altered in value, we cannot expect a constant equation.

2. But the value of a physical condition is also variable. A mental state WHILE IT LASTS produces, according to our theory, a definite change in the body ; it raises or depresses the temperature ; it increases or diminishes the "tension ;" it stimulates or calms the nervous irritability. But is a "ten degrees of Fahrenheit" depression of temperature, a physical change of the same value to all human bodies in all circumstances ? It is not. *One body*, at the moment of mental shock, may be of an abnormally HIGH temperature, as in anger or mania ; and the cooling in that case is not injurious, but is recommended as "beneficial" by experienced practitioners. The *second body*, at the moment of mental shock, is at the very lowest verge of animal heat (70° or 80°) at which its vitality can be preserved, and the cooling of the body through fear in this case (as, alas ! we find in cholera) will be injurious, and may result in fatal collapse. So the passion of anger, as described by Van Swieten,* is invariably accompanied by quickened circulation, &c. ;

* VAN SWIETEN's *Comm.*, p. 148.

but these physical concomitants of mental phases will originate a different result in the man of plethoric constitution, whose vascular system is tasked already to the utmost, from the result in a man whose body is cool, and whose arteries are many points removed from full distension.

The truth on this subject may be thus stated : "The *concomitance* of mental states and physical conditions is INVARIABLE, and amenable therefore to law ; but a difference in the mind of one patient from that of another will cause a *variation* in the *mental sequences* ; and a difference in the diet, and air, and temperature, and occupation of the two patients, will cause a *variation* in the *physical sequences*." Therefore, unless the exact value (in this particular mind in those peculiar circumstances) of the mental state with its sequences, and the physical condition with its sequences, be accurately determined, a knowledge of the *invariable* physiological connection between the mind and its body will not yield us sure guidance in unravelling complex pathological phenomena. Now, the mental state, with the subsequent mental changes as modified by individual character, belongs, if sciences be divided, to the study of psychology ; while the physical condition, with the subsequent physical changes, as modified by the individual constitution,

is to be detected and estimated by the science of physiology. Therefore this knowledge of invariable connection between certain mental states and bodily conditions, can be employed in daily life only by the physician well versed in human nature (nor are these rarely found); and by the metaphysician, who is also acquainted with the healthy and morbid structures and functions of the body. But to the physician ignorant of our moral anatomy, and the metaphysician ignorant of Quain's anatomy, no speculative doctrine on this point can be useful: just as the general theory of equations, however excellent, is valueless to the man who cannot add or otherwise estimate the algebraical quantities on this or that side.

The psychologist we would not urge too vehemently to study Quain or Carpenter, lest like some worthy clergymen, after an odd winter session at the medical classes, and the subsequent purchase of a medicine-chest, he should enter upon the field of practice in untimely opposition to the country doctor. And to the physician, what can we say, if the eloquent descriptions of Sir E. B. Lytton do not lure him on to the study of our moral anatomy? He need not suppose he will require to unlearn the pharmacopœia, or to place hope, faith, and charity in the list alongside of tartar emetic, colchicum, and squills, or

of gentian and kino. It were, indeed, no less ludicrous than base for a man to practise the higher functions of the soul, merely with a view to keep the bowels open, to relieve giddiness in the head, or to remove spasmodic twitchings of the finger or eyelid. Fear may act as a cathartic, but elaterium is potent in sufficiently small doses ; wholesome terror may be a sedative, but Fleming's tincture of aconite is (at least) strong enough for that purpose.

On the other hand, it is equally ludicrous (however lucrative it may be) for a man to ransack the armoury of medical warfare, and to come forth, armed with the costliest weapons—with lactucarium or musk—against the effects of habitual selfishness, of unsocial brooding, and of bad temper. Yet this must often be the practice of physicians ignorant of the influence of Mind.

As, then, we do not doubt the virtue of *pharmaca* (*Anglicè* drugs), because we at the same time desiderate hygienic regulations as to food, clothing, sleep, and exercise, so also we do not detract from their efficacy, because we at the same time desiderate attention to the health of the mind. The sole object of both precautions is, to let the drugs have fair play when they are applied, and so preserve them from certain but undeserved contempt when they shall have failed in the unequal contest.

Surely such a mastery over his tools, and such an intimate knowledge of the men for whose benefit they are exercised, are objects worthy of the accomplished physician. And though they cannot be attained without a combined knowledge of human nature and human anatomy, yet we should not regret this price ; for by its payment is incidentally secured the closer alliance (so long desired by the noblest) between the sciences of physiology and psychology, an alliance which we ourselves (during the present essay) have endeavoured, according to our ability, to promote, and to render desirable in the estimation of the reader.

FINIS.

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